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3. A method of operating a packet-switched network, comprising the following steps:

- a) at each node, repeatedly examining status of links connecting to the node; and
- b) if a change in status is detected by a node, flooding the network with news of the change in messages which are self-propagating and self-terminating; and
- c) if a node detects no change in status of a link for a predetermined interval  $T_2$ , then flooding the network with news of the status existing at time  $T_2$ .

5. A method of operating a packet-switched network, comprising the following steps:

- a) testing links by attempting to (1) send test packets on the links and (2) receive returned test packets on the links, and using the testing to generate reports of status of links in the network;
- b) propagating the reports to all nodes in the network;
- c) at some nodes, replacing the propagating reports, by new reports;
- d) propagating the new reports to all nodes in the network; and
- e) repeating steps (c) and (d).

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31. Method according to claim 1, wherein the node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, to thereby generate the flooding with messages.

32. Method according to claim 21, wherein the base node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, to thereby generate the flooding with messages.

33. Method according to claim 22, wherein the base node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, to thereby generate the flooding with messages.

COMPLETE LISTING OF ALL CLAIMS

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1. (Original) A method of operating a packet-switched network, comprising the following steps:

- a) at each node, repeatedly examining status of links connecting to the node; and
- b) if a change in status is detected by a node, flooding the network with news of the change in messages which are self-propagating and self-terminating.

C\ 2. (Original) Method according to claim 1, wherein nodes receiving the self-propagating messages do not acknowledge receipt to another node.

3. (Currently amended) ~~Method according to claim 1, and further comprising the following step:~~

A method of operating a packet-switched network, comprising the following steps:

- a) at each node, repeatedly examining status of links connecting to the node; and
- b) if a change in status is detected by a node, flooding the network with news of the change in messages which are self-propagating and self-terminating; and
- c) if a node detects no change in status of a link for

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a predetermined interval  $T_2$ , then flooding the network with news of the status existing at time  $T_2$ .

4. (Original) Method according to claim 3, and further comprising repetition of the steps of paragraphs (a) and (b) after that of paragraph (c).

5. (Currently amended) A method of operating a packet-switched network, comprising the following steps:

- C\
- a) testing links by attempting to (1) send test packets on the links and (2) receive returned test packets on the links, and using the testing to generate ~~generating~~ reports of status of links in the network;
  - b) propagating the reports to all nodes in the network;
  - c) at some nodes, replacing the propagating reports, by new reports;
  - d) propagating the new reports to all nodes in the network; and
  - e) repeating steps (c) and (d).

6. (Original) A method of operating a packet-switched network, comprising the following steps:

- a) at an originating node,
  - i) generating a message which reports a

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change in status of a link;

ii) transmitting the message to the neighbors  
of the originating node;

b) at each neighbor,

i) storing the message if the neighbor does  
not know of the change; and

ii) transmitting the message to neighbors of  
the neighbor.

C\ 7. (Original) Method according to claim 6, wherein the  
neighbors do not transmit acknowledgement of receipt of the  
message.

8. (Original) Method according to claim 6, wherein the  
message is assigned an age, and the neighbor of paragraph (b)  
decrements the age, prior to transmission to the neighbor's  
neighbors.

9. (Original) Method according to claim 8, wherein the  
neighbors of the neighbor further decrement the age.

10. (Original) Method according to claim 6, wherein the  
neighbor of paragraph (b) discards the message if the neighbor has  
previously received the message.

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11. (Original) A method of operating a packet-switched network, comprising the following steps:

- a) at an originating node,
  - i) generating a message which reports a change in status of a link;
  - ii) transmitting the message to neighbors of the originating node;
- b) propagating the message, until all nodes have received the message; and
- c) after all nodes have received the message, taking steps which cause termination of propagation of the message, without informing the originator of receipt of the message by nodes.

12. (Original) Method according to claim 11, wherein the steps of paragraph (c) include the steps of replacing the message with a newer message.

13. (Previously added) Method according to claim 1, wherein (1) the messages are received by nodes in the network, (2) the nodes are equipped with rules to follow, and (3) following the rules makes the messages self-propagating and self-terminating.

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14. (Previously added) Method according to claim 5, wherein the nodes of paragraph (c) include nodes which originated the propagating reports.

15. (Previously added) Method according to claim 1, wherein the self-propagating messages lack stated destinations.

16. (Previously added) Method according to claim 1, wherein at least some propagating packets return to the node originating them.

C\ 17. (Previously added) Method according to claim 5, wherein at least some propagating packets return to the node originating them.

18. (Previously added) Method according to claim 6, wherein at least some propagating packets return to the node originating them.

19. (Previously added) Method according to claim 11, wherein at least some propagating packets return to the node originating them.

20. (Previously added) Method according to claim 5, wherein

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reports continue to propagate after all nodes have received them.

21. (Previously added) A method of operating a base node in a packet-switched network, comprising the following steps:

- a) repeatedly examining status of links connecting to the base node; and
- b) if a change in status is detected, flooding the network with news of the change, in messages which are directed to nodes in the network, which messages become self-propagating and self-terminating because of rules which the nodes follow.

22. (Previously added) A method of operating a node in a packet-switched network, comprising the following steps:

- a) repeatedly examining status of links connecting to the base node;
- b) if a change in status is detected by a node, flooding the network with news of the change in messages which are self-propagating and self-terminating; and
- c) after flooding, receiving at least some of the propagating packets at the base node.

23. (Previously added) A method for use with a base node within a network, comprising:



- a) maintaining a status table which indicates operational status of data links in the network;
- b) testing operability of data links connected to the base node;
- c) if testing indicates a data link DEF connected to the base node is defective,
  - i) generating a new Route Status Packet, RSP, which identifies
    - A) identifies the defective data link DEF,
    - B) identifies the base node as originator of the new RSP,
    - C) contains an initial age of the RSP, and
    - D) contains a sequence number of the RSP; and
  - iii) transmitting copies of the new RSP to all neighbors of the base node, but not using data link DEF.

24. (Previously added) Method according to claim 23, and further comprising:

- d) if an incoming RSP originating from another node N is received at the base node,

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i) comparing the incoming RSP with previous RSPs received from node N, and

A) if the incoming RSP has a sequence number exceeding that of a previous RSP received from node N, then

1) accepting the incoming RSP, and

2) using data in the incoming RSP to update the status table;

C\ B) if the incoming RSP has a sequence number which does not exceed that of a previous RSP received from node N, discarding the incoming RSP.

25. (Previously added) Method according to claim 24, and further comprising:

e) using data in the incoming RSP to update the status table,

f) decrementing age of the RSP, and

g) transmitting copies of the age-decremented RSP onto links leading from the

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base node.

26. (Previously added) Method according to claim 24, and further comprising:

- e) receiving an incoming RSP at the base node; and
- f) ascertaining whether the incoming RSP received is a copy of an RSP previously originated by the base node and, if so, discarding the RSP.

27. (Previously added) Method according to claim 24, and further comprising:

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- e) at the base node, queuing data packets which would be transmitted over the defective data link DEF, while data link DEF is defective.

28. (Previously added) Method according to claim 27, and further comprising:

- f) when the base node receives information indicating that data link DEF is operational, transmitting the queued data packets onto data link DEF.

29. (Previously added) Method according to claim 28, and further comprising:

- g) updating the status table at the base node, to

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indicate correct status of data link DEF.

30. (Previously added) Method according to claim 27, and further comprising:

f) for packets in the queue, generating substitute routes using operational links, and initiating a process of emptying the queue, using the substitute routes.

C 31. (New) Method according to claim 1, wherein the node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, thereby generate the flooding with messages.

32. (New) Method according to claim 21, wherein the base node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, thereby generate the flooding with messages.

33. (New) Method according to claim 22, wherein the base node generates a message which it transmits to its neighbors, who copy it to their neighbors, and so on, thereby generate the flooding with messages.